EVE'S DAUGHTERS TEMPTED. WOMAN'S SERPENT OF THIS DAY BE-GUILES HER TO DRUNKENNESS.

It Is in the Highest Sectal Ranks that the Drink Habit to Gathering Such Dan-gerous Hendway-What Doctors Say. Three cases, very similar and very unusual. have crept into the police reports of the past four weeks. Taken as isolated facts, they were and enough, but as straws, showing which way

ling significance. The chief figure in each of these cases was a woman of education, culture, and position, and of sufficient beauty and womanliness to win love. Yet, at the head of each pitiful tale was

the wind of custom blows, they were of start-

written the word—drunkard!
The mysterious case of Minnie Porter was the first. She was taken from the Everett House, where she was suffering from the eftects of a prolonged debauch. She died in Bellevue Hospital, without regaining suffielent consciousness to make any statement. The second was the case of Mrs. Bruce Crane. the wife of the artist. Bhe was brought into the police court in a state of intextcation. husband accompanied her and broke down completely as he told the story of his ineffectual efforts to reform her. She was sent to some institution. The third woman was Mrs. Frank W. Palmer, who was found dead in her room at the United States Hotel. Alcoholism was the cause. She had been reared in wealth and luxury, had been carefully educated, and had led the cheir and played the organ in an Episcopal church.

Three such cases, one following close upon the heels of another, would seem to have some unusual significance. Did they indicate that there is an increase of drinking and drunkenness among women? It so, what is the cause?

In the first place, there is such an increase. This fact was questioned by some of the sources of information consulted by Tuz Sus reporter, but it is proved by the reports of Bellevue Hosrital as well as by the police records. The register at Bellevue shows that in 1882 in 1885; in 1884 there were 1,012; in 1890, 1,028; in 1801, 1,154, and in 182, 1,21. Thus there was an increase of 336 cases, or about 57 per cont. In four years. Of course, there was a definite increase in population during the same time, but the ratio was far less than that of the advance in alcoholism. down completely as he told the story of his

the same time, but the ratio was far less than that of the advance in alcoholism.

These reports show another interesting fact. Of the \$75 cases in 1888 only 14 were fatal, while of the 1.211 cases in 1882, there were 55 who died in the hospital. This shows that the fatal cases were more than trebled during the period when the admissions increased only 37 per cent. Drunkenness is therefore not only much more general among women, but the vice is also becoming more destructive in its consequences.

much more general among women, but the vice is also becoming more destructive in its consequences.

This record of facts tallies well with a statement made by Dr. W. E. Brill, visiting physician to Mount Sinal Hospital. The reporter asked Dr. Brill if he considered that alcoholism was on the increase among women.

"As a habit, perhaps not. But as a disease, yes," replied the Doctor.

"What is the distinction between the two?"

"By 'a habit' of drinking. I mean taking wine with meals, or regularly, without any striking effects. Dipsomania, the name by which physicians call alcoholism when it is a disease, is a morbid appetite, which recurs at intervals with irresistible force. This species of drinking is on the increase. The cause is nervous degeneration, to which Americans are particularly liable."

T. R. Crothers, M. D., in an interesting article recently published in a medical journal, says:

"The term alcoholism is generally used to describe a class of cases which have become discase by continued and excessive use of alcohol. In reality an increasing number of these

ease by continued and excessive use of alcohol. In reality an increasing number of these
cases begin to use spirits in excess suddenly
and pase rapidly into the chronic state. The
use of alcohol is only a symptom and the cases
are not those of true alcoholism, because they
are due to other causes. Inchristy would
be a more accurate term."

Dr. Crothers goes on to say that the moderate drinker of the past has in a measure disappeared. Now we have the impuisive,
manincal drinker, who, after brief preliminary
stages, becomes an excessive user of apirits.

appeared. Now we have the impulsive, maniacal drinker, who, after brief preliminary singes, becomes an excessive user of spirits. In this class come the periodical inebriates, who, at fixed intervals, develop an uncontrollable appeared. The interval between these attacks is often exactly regular. In one case it was: I days and 2 hours: In another #2 days and 4 hours. It is this abnormal, diseased appetite for liquor which Dr. Brill says is growing more common among women.

Admitting the fact that drunkenness is more prevalent, the question arises as to the class of seciety in which it has gained the most ground. It is true that there has been an increase in the drinking habit among the lower classes but it is not a striking one. Such institutions, for example, as the Isnac T. Hopper Home at 210 Seconda evenue, accommodate about the same number, year after year, with but little variation. The Magdalen Home on Lighty-eighth street has received about 250 inmates a year for the last twenty or thirty years, with very little difference among the annual records. The police reports show an increasing percentage of arrests of women of this class, but observant n.en and women of the west default that it is in the uncorranted. increasing percentage of arreas of women of this class, but observant agen and women of the weelst claim that it is in the upper ranks of society that alcoholism is making it agains.

The statement has been often made that New York society women are more given to drinking intoxicating liquous tian are the women of any other city in the country. This is unquestionally true if the range of comparison be limited to Northern and Western piaces. It may be that the traditional use of liquor in the South brings its cities nearer to the mark. One thing, however, is absolutely certain, and that is that in no city in the United states, San Francisco perhaps excepted, is there so general a public indulgence in wine by women as in New York. San Francisco, furthermore, is not exactly a parallel case, for the class of women who drink in public there are of a distinctly different order from the society women of New York.

The time-honored remarks about the feminite habit of snatching lifteen minutes from an actions shopping four to lanch off fee erom and cold water must be revised. Perhaps it is because their methers followed this custom, that the present generation thirsts after something hot and stimulating. At any rate a growing proportion of feminine shoppers, and callers, and mathen goers, havetaken to dropping into their lavorite restaurant and ordering something which comes in a long-steam ed glass and is not taken with a spoon. At Mailitards, the essentially feminine bill of fare, with its coquettes and salads and ice cream, does not even turn the page to announce the shorty coldbers, milk punches, egg nogs, and other concections with which the less reckss, but observant n.en and women of

m, does not even turn the page to announce sherry cobbiers. milk punches, egg nogs, other concactions with which the less reck-feminine thirst is assuaged. At the Brunst, Deimonico's, the Waldorf, or any other of Inshiomable restaurants, the fairest and threprogenable women may be seen any sipting cocktails, cordials, or French curs. In the evening, the ladies at the table k whatever is ordered by the host, he more harmless of wines, such as claret sherry, are apparently forsaken in public, schammagne at the dinner or theatre party ight, and it is a cocktail or some liqueur in diternoon.

It is chamming at the dinner or theatre party at high; and it is a cocktail or some liqueur in the alternoon.

The home dinner and lunch are the occasions when the regular table wines are in use. There are hindreds of women who drink to this extent and are by no means counted as victims of the liquor appetite. Where they will he in the years it is not safe to predict. Perhaps they will be druking brandy, whiskey, cologne, sustaing with alcohol in it, to satisfy their mad craving. And then they will die in delirium tremens, and the doctor will kindly shut the door on the family skeleton and sign a death certificate with a long Latin name of some disease of the nerves, those modern a carring. And then they will do in A well-known woman physician, who has that the him and the alcoholic subjects on her listed justinity. These cases ame to her by accident, as it were, she would be sent for lect use the wobsine or girl was ill, and would, on answer by health. These cases came to her because the wobsine or girl was ill, and would, on answer by the call, find the patient unmistability under the influence of liquor.

In such cases, she says. I never make any remark about it is so no use at that lime. But the next time I go I say frankly; bee here, weren't you under the influence of liquor. In such cases and the limbs, and the comes the whole story, and a sad enough story it is, too. The older women. I find, have acquired the habit through social drinking. They take wine at their meals, a glass of whiskey or a cocktail leav and then through the day, and after the social round is over and they are in their own resons they drink chough in light caps to send them shade he would affer the marranton that maiame is suffering from a severe headache. You know a headache covers a meditatine of sing."

Whiskey principally. Sometimes brandy. If they cannot set these they will drink cologne or anything containing alcohol."

"He classes which frounds me meat are the young women-the girls. With them it is almost always a hereditary ap

there in hastquard found she had been dring heavily.
She told me afterward that after she gave in a the promise to quit she had thrown away every drop of liquer in the house in order to be free from the temptation. She got on all right for a time until a shight lilness came, and with it the longing for liquor to stimulate her. She said a devil seemed to whisper to her to take just a teaspoonful, but not to take any more. She sent out and got a quart of whiskey and took the teaspoonful. That was enough to

make her crazy with the appetite, and she drank the whole quart. It would have killed her if nausea had not saved her by bringing it all up again. That was three months ago, and she has kept her promise since then, but and the doctor shook her head. "It is hereditary with her, poor girl!"

she has kept her promise since then, but —and the dector shook her head. "It is hereditary with her, poor girl!"

Dr. Grace Peckham Murray said that it is not possible to tell whether drunkenness is on the increase. She admits that drinking is, however. This increase, she saye, is merely a reaction. Forty years ago it was more common than it is now. Everyone, even ministers and good old dearens, kept all sorts of "hard" and "soft" drinks to offer to their thirsty guests. Intemperance became such a great evil that a reform was necessary. She thinks the temperance movement has seen its height for the present and that a reaction has again, and hundreds of families who never had wine on their tables ten years ago are serving it now. Still another woman physician said that in many cases the habit of drinking was preceded and accompanied by the cignrette habit. The extent of the prevalence of this custom among girls and women it would be hard to estimate, and the tobacco habit, so the learned doctor says, induces both thirst and nervous derangement, both of which conditions make

among giris and women it would be hard to estimate, and the tobacco habit, so the learned doctor says, induces both tulest and nervous derangement, both of which conditions make heavy bids to alcoholism.

As for the cause of it all, one man says it is an accompaniment to the increased laxity of morals in cities, particularly in New York. Another says it is because of a lack of roligious sentiment in the community—two answers which spell the same thing. Another says, and yet others, that it is because this is a luxurious ago, and the people who have acquired wealth are living at a homestretch gait, and alcohol is the whip that helps them keep the pace.

However that may be, the serpent which, necording to tradition, lurks in the bottom of the wineglass, has apparently begun a second temptation of Eve, and Eve, alast seems inclined to listen as she did of old.

JULES BURROUGHS, A. B. Chesterfieldian Methods of an Eastera Alum

The While Holding Up Two Stages.

Prom the St. Ionic Globe Democrat.

On the trail near Bailinger, Tax., there is a mound, beneath which lies all that was earthly of Jules Burroughs. He was a young man, educated and refined, a graduate of some Eastern college, and yet the boy could not resist the temptation and fascination of following in the footsteps of Claude Duval, Jack Sheppard, Jesse James, and other notorious knights of the road. He was a gentlemanly highwayman in every sense of the word, for he help up conches, waylaid travellers, and robed promiscuously with a decency and gentility that was as unusual as it was strange. As to nerve and pluck, he had more than the usual allowance accorded to ordinary mortals.

One of his most during exploits was to hold up simultaneously two stage coaches filled with passengers. The affair occurred in the fall of 1888 on the road between San Angelo and Ballinger. Burroughs stationed himself on horseback in a coulee or depression in the prairle, and as the coach swept around a curve the occupants were startled by the fluure of a masked man mounted, who, with a six-shooter in each hand, called out sharply:

"Halt, and get out of the stage!"

Passengers and driver first thought of protesting, but a shot laid one of the horses low, whereupon seven half-scared individuals stepped out on the prairle and threw up their hands, as they were rolliely requested to do. The highwayman, covering them with his right-hand weapon, with his left hand pulled a little sack or bag from his belt, and, tossing it to the first man on the left, said:

"Hace that over your head, please, and then raise your bands again. Don't make any attempt, gentlemen, to better your situation, for the first one who makes a move will be a dead man in less than a second."

Number one placed the bag over his head and raised his hands as before. Number two was treated likewise, and as on until the septet of chagrined individuals were served in the same manner. Then, in the politest tones imaginable, and with a cou From the St. Louis Globe Democrat.

Jack Shepi Ard proceeded to relieve them of all their valuebles.

"What have you done with your watch?" said he to the fl"h one in line.

"I have no watch," was the answer.

"I know you have none now, but you had one a short time ago. What have you done with it."

with it?"
I never had one," replied the prisoner.
"Are you a lawyer?" inquired Burroughs.

"Yes."
"Then I forgive you for lying, as that is a part of your profession. But hy an examination of your yest buttonholes and your yest pocket, I am convinced that you had a watch less than ten minutes ago. Now, where is it? Tell me quick!"

The lawyer, for in truth he was a lawyer, saw at once that his captor was as shrewd as, if not shrewder, than he was, so he made no more efforts at concealment and answered:

"I tossed my watch and chain out of the window when you halted us. It is lying over when you halted us. It is lying over

"I tossed my watch and chain out of the window when you halled us. It is Iving over there in the grass."

"I thought so," said the robber, pleasantly.
"Please remove the little bag that conceals your handsome leatures, step over to the spot and pick it up for me.

The lawyer did as requested. He watched an opportunity to make a dash or, if possible, to eateh the highwayman off his guard, but the latter was not of that kind, and actually plerced the unhappy lawyer with his lynx-like gaze. When the valuable time piece was placed in his hand I urroughs made a polite bow to the owner and handed it back to him.

"Take it." said he, with sarcastic grace. "and keep it in remembrance of your notice loyally to voor profession. No lawyer can afford to tell the truth, and I admire you for your faithfulness to the enuse."

After robbing them of all tonly \$500 or thereabouts was optained; the road agent addressed them as follows:

"Gentlemen. I know you to be brave men. I know, too, that had you been armed you would have resisted now and probably iloud.

abouts was obtained: the road agent addresses them as follows:

"Gentlemen. I know you to be brave men. I know too, that had you been armed you would have resisted ma, and probably blood would have unnecessarily been shed. Happilly, you have acted like sensible follows. I will allow each of you 60 cents for suppertonight in Ballinger. In four hours the other stage will be along and I intend to assess them all just as I have you. I am sorry, gentlemen, that it will be so long coming, but unfortunately, that cannot be helped. You will be held prisoners until I shall have received my portion from the others. Serry, but it cannot be helped. About lace, forward march."

The seven discomfited men were marched about 100 paces distant, where they were halted and faced in the opposite direction. The highwayman cautioned them not strinor to remove the bags, as he was watching them close to their sides, and hoot the first one who violated the order. They were allowed to drop their hands, but advised to keep them close to their sides, and not to make a motion of any kind. Four long solltary hours those poor frightened wretches stood there, and then the long-hoped-for coach came rolling down into the coulee, where a surprise party awaited it. I can't say that the other prisoners where anxious for their appearance on the scene.

With his eye on both parties the lone high-

down into the conies, where a surprise party awaited it. I can't say that the other prisoners wished the new arrivals ill juck, yet I am sure they were anxious for their appearance on the scene.

With his eye on both parties the lone highwayman held up the second stage precisely as he had the first one. There were six in this party, and earh one dismounted as requested and formed a line on the prairie in front of the vehicle they had just left. The little large were thrown to them, and the poor, frightened individuals ordered to place them in position. Then he rifled them of their valuables, after which he placed them alongside the others, and read the whole growd an amusing lecture.

He told them of their valuables, after which he placed them alongside the others, and read the whole growd an amusing lecture.

He told them of the shoft covetousness, How sad a thing it was to accumulate riches for themselves instead of sharing with the poor and needy, as they ought to do. As for himself, a certain portion of his carnings was devoted to alms. This statement, strange as it may seen, was in part true, for Eurrosquis actually did contribute to charity, and made it a rule never to roba woman or a priest. Before dismissing them he said:

"Genilemen, you may now remove those little tags and drop them, but don't make a motion for any other purpose, or I shall be compelled to resort to extreme measures.

"I am a gra-luntent law gentlemen, but did not like the profession: there was too much deceit in it. No intention to reflect on you personally, nodding to the lawyer. When I leave you, do not altempt to catch me, for you will fail. In a few hours after leaving you I will fail. In a few hours after leaving you I will be across the life Grande into Zona Libre, where neither Mexican nor United State-laws can took me, gentlemen, but warn you not to move hand or foot for half as hour. Addes, lads, and better luck next time." Saying which, he turned his horses head and rode showly away.

In a few minutes the dash and clatter o

SOME RELICS OF PIRATES.

MR. LE MARTIN FINDS MORE TRACES OF THE OLD FREEBOOTERS.

The Rained Forts of the Private Colony of Madagasear—Outlawe's Europeans Who Became Knights in a Savare Country.

The French traveller, Le Martin, who has just visited the west coast of Madagasear, says that numerous traces are yet to be found there of the freebooters who made that coast their haunt for so many years early in the list century. Some of the names along that coast, such as Murderers' Bay, perpetuate the memory of the pirates.

Le Martin found on the shores parts of vessels which they had plundered, and bits of their old forts, he says, are still scattered along the coast, particularly at St. Marty's Island, where the fort built over 190 years ago is still in a fair state of preservation.

The pirate colony in Madagasear was founded in the days when piracy thrived. About a dozen of the mast notorious outlaws who had made the west coast of Africa a terror to merchantmen, transferred their enterprises to the cast coast. They found on the western shores of Madazasear favorable retreats to which they could retire in order to escape the menor-of-war that were trying to put an end to this form of outlawry. These pirates were able to



CAPT, BOGERS MEETING THE MADAGASCAR PIRATES.

gain great influence over the Sakalava natives, who in the early part of the last century were not under the subjection of the more advanced and powerful flovas, as they are to-day. The entire island was in a savage condition and the pirates with their guns and cannon were able to establish their supremacy for over one hundred miles along the west coast. Every one of the dezen pirate leaders became kinglets. of the dozen pirate leaders became kinglets. bringing all the chiefs under their rule. It was their policy to incite rivalries and warfare among the native tribes and finally to side with that party of belligerents who, in their opinion, could be made most useful and submissive.

Some of the pirate chiefs owned many slaves and supported enormous; plantations and While they were conquering the western fringe of the big island they were also preying uron all commerce that ventured into the neighboring waters. In the course of forty years hundreds of merchantmen were attacked, their cargoes captured, and all their crews killer unless they consented to become part of the pirate bands. Most of them, to save their lives, if for no other reason, became

into the interior, and he was so disgusted the he shook the dust of Madagascar off his fe

NOTES ON SCIENCE AND INDUSTRY.

The flexible shaft which has come into use in machine operations is a unique mechanical device, transmitting rotary motion to any desired distance from the motive power source, through any number of curves, thus allowing the power to be carried to the work instead of the work to the power. An improved form of this arrangement is now being introduced—a series of coils of steel wire, wound hard upon each other, each alternate layer running in an opposite direction, and the number of wires in different layers varying according to the work to which the shaft is adapted. On being brought to size about one inch at each end of the shaft is brazed solid, and to these solid ends the fittings are attached, the one to receive the tools to be operated, the other to receive the tools to be operated, the other to receive the nower from the pulley inclosing it, which in turn receives its power from a belt. Next a case is prepared consisting of a single coil of special square steel wire, its internal diameter being a loose fit for the outside of shaft; this is covered with some flexible material of a character best adapted to the purpose, leather preferably, over which at either end a forrule is fastened, and into this ferrule at one end is screwed the hand piece, at the opposite end the frame which carries the pulley. the work to the power. An improved form of

metals is a novel French process, and its adaptations are likely to be as numerous as they are valuable. It is also simple. The portion of the tube that is to be soldered is first covered with a thin layer of platinum, this deposit being obtained by covering the slightly heated glass, obtained by covering the slightly heated glass, by means of a brush, with very neutral chloride of platinum, mixed with essential oil of chamomile, the latter being slowly evaporated, and, when the white and odoriferous vapors cease to be given off, the temperature is raised to a red heat; the platinum is then reduced and covers the glass tube with a layer of bright metal. On connecting the tube thus metallized and placed in a battery of suitable energy, there is deposited on the platinum a ring of copper, which will be mallegile and very adhesive if the operation has been properly performed. In this state the glass tube, covered with copper, can be treated like a genuine metallic tube, and be soldered by to iron, copper, bronze, platinum, or any metals that can be united with tin solder.

Experiments made at the Main collieries. Rotherham. England, have demonstrated the great advantage of the shield, or bonnet, as a protection to mining lamps, which would otherwise immediately explode in a strong current. But still more interesting, perhaps, is the invention of an apparatus for testing safety lamps, in respect to their relative merits safety lamps, in respect to their relative merits as fire damp detectors. The apparatus is a wooden box, with an inlet tube for gas at the top and an outlet for air at the bottom, and the mixture can be so varied that any desired percentage of gas may be obtained in the air. This device, it appears, falls to verify the general belief that an ordinary Pavy lamp can detect three percent, of gas, and, indeed, with any of the newly contrived lamps, the percentage had to be greater to show any indication on the flame. An exception to this general result, however, is mentioned in the case of a lamp fitted to burn benzoline through a sponge, a lamp giving a brilliant light, and by a very delicate arrangement the flame can be lowered until it assumes the character of the Bunsen burner flame; the glass of the lamp is also "frosted" a certain distance up, so that even the most minute elongation of the flame is immediately detected by means of this lamp; one-fourth per cent, of gas does not escape unnoticed.

In view of the fact that no method of chemi-

In view of the fact that no method of chemical analysis is available for determining the quality of vulcanized india-rubber, a series of valuable experiments have been made by Viadimiroff at the St. Petersburg Technical Institute, by which the following conclusions are arrived at: First, India-rubber should give no sign of superficial cracking when bent to an angle of 180 degrees after five hours' exposure in a closed air bath to a temperature of 125 degrees C., the test pieces to be six centimetres thick; second, rubber that does not contain more than half its weight of metallic exides should streeth to five times its length without breaking; third, esoutehoue, free from all foreign matter except the sulphur used in vulcanizing it, should streeth at least seven times its length before rupture; fourth, the extension measured immediately after rupture has taken place should not exceed 12 per cent of the original length of the test piece of rubber, this test place to be from three to twelve mm. long, three cm, while, and not more than six mm, thick; fifth, softness may be determined by measuring the percentage of ash formed on incineration, and may form the basis for deciding between different grades of rubber for various purposes. should give no sign of superficial cracking

In order to arrive at a satisfactory solution of the effect of wide-tire or narrow-tire wagons on roads a series of exhaustive tests have been made by the aid of a dynamometer recently, and the results, as described in a California paper, show that broad tires, of any width that would be really practical, would not make good roads, simply having less ten-

the shoek the dust of Madagasear off his feet and once more became a pirate on the high seas. The fate of this outlaw chief is unknown. After his time the pirate colony gradually died out. Some of its members were murdered by the natives and others left Madagascar and went on piratical cruises, and most of them ended their adventurous careers on gibbers. At that time the West Indies was the haunt of a great many pirates, and a number of the Madagascar criminals died on gallows, the remains of which are still seen not far from Kingston, Jamalea. Long before African exploration began in earnest the Madagascar pirates had entirely disappeared, and it is only by the relies of their long sejourn on the big island that we are remined now and then of the day when the west coast was entirely in their power and they lived there the rulers of the natives and the destroyers of commerce.

dency to cut up poor roads than does the narrow tire. It is urged that the narm to wagon roads commonly occurs when the surface is saturated with rain and the roadbed is soft and yielding, so that at such times loaded vehicles having wheels with narrow tires cut out ruts more or less deep, according to the length of the wet spell and the amount of use to which the roadway is thus subjected; when, however, the roadbed is solid and care taken to promptly fill up inequalities created by the wear and tear of the surface, under those circumstances narrow tires, to all intents and purposes, are no disalvantage to the roadbed, while they are unquestionably of greater advantage to the vehicle. Narrow tires tend to lighten draft in drawing loads over smooth roads and over those that are sait; but over surfaces that are sandy or yielding in their nature the wide-tire wagons give the best rosalls, and are accordingly hetter for general field use. Again, a consideration to be noted is that the supply of material for felices, in the case of wide-tire wagens, is less abundant than that which is suitable for marrow tires; wide-tired wagons being, on this account, more expensive than these having tires of the usual description, a difference liable to be still further increased.

An important question has lately been disussed before one of the societies of engineers in England, namely, the economic possibilities of the generation of electro-motive force in the coal fields and its application to industrial centres. In defining the most economic and practically ideal method of converting heat into work, with the mechanical facts at present available, such realization must depend, it is declared, on the conversion of the solid fuel into a gascous condition as a first prerequisite; into a gaseous condition as a first prerequisite; the abstraction of the nitrogenous value from the fuel and its conversion into a condition suitable for agricultural fertilization; the direct combustion of such gaseous fuel in the combustion cylinder of a gas motor, for the conversion of the thermic into dynamic energy, and finally, the transformation or transmutation of this dynamic into electric energy or into electromotive force. The conclusion is that the ultimate possible results of a fuel gas and gas motor plant, on a large scale, is, that with such a plant, the dynamic power inclosed in the indicated eard of pressure of a cylinder will be equivalent to the raising or elevation of 33,000 pounds, one foothigh, in one minute, which may be obtained with an expenditure of from five-eighths to one pound of solid fuel. At present, these conditions cannot be economically obtained from any other form of motor-generating procedure or plant than a gas engine; the steam engine method has an associated loss far greater than the gas engine, and, although it is possible to convert the fuel into a gaseous condition and recover the nitrogen, there are losses attending the employment of such a procedure that partly neutralize the gain, and this even when the operations are carried on under the most favorable circumstances.

A new and effective machine, working autothe abstraction of the nitrogenous value from

in seven when the operations are carried on under the most favorable circumstances.

A new and effective machine, working automatically, has been invented for the manufacture of link beiting made from sheet steel, and is adjustable for all the different sizes. The steel is fed from the roll or coil by an automatic roll feed, bringing the end of the coil about midway on the die, when the first stroke of the press comes down and perforates the link; in the upward movement of the slide, the link is formed and end turned link, in the second downward stroke of the slide, the link is formed and end turned down, and at the same time a raw of the back side of the machine is forced which forms the hook; when the slide and the which forms the hook; when the slide and the slide of forward the space of one of the back side of the machine is forced the slide of the machine is forced the slide of the wachine is forced the slide of the wall of the weight of the slide of the weight of this press is some seven thouses the slide of the slide of the slide of the weight of the press that the nickel deposits at various places in the United States which may be valuable are in Oregon, Nevada, and North Carolina. A trial of the North Carolina are a reported as showing an average of about 2 per cent of nickel although some samples were obtained unning up to 10 per cent; the Nevada cross are abundant in quantity and comparatively rich, but they are arsendeed to the weight of the w A new and effective machine, working auto-

Nevada ores are abundant in quantity and comparatively rich, but they are arsenides of nickel and difficult to refine; the Oregon ores are of the silicate class, and have not been developed in commercial quantities. In regard to the welding of nickel and steel, an examination of rolled sheets thus treated is said to reveal no evidence at the edges as to where the nickel ends and the steel begins, though of course the outside is mostly nickel and the inside steel—the nickel is welded to both sides of the sheet of steel, making a non-oxidizable article having the stiffness of ordinary steel, and convenient for various uses. Metallurgists are of the opinion that, for a variety of purposes, a steel with a high percentage of nickel may prove of conderable practical value, and the progress of experiment in this direction will be watched with much interest.

SINGING TO THE CYLINDERS.

HOW GRACE CHURCH CHIMES WERE CAUGHT FOR THE PHONOGRAPH. Episodes in the Work of Mr. Edward Clar-

ance, who Gathers Upon the Wax Rolls the Best Human Volces and Instrumentation and Distributes Them Over the World. A man stood in the belfry of Grace Church, about eight feet below the chimes. One of the bells rang; the man pressed a button and shouted in a voice so loud that any skipper might be proud of it. "The chimes of Grace Church, New York city, as played by Miss Bertha Thomas."

That night the chimes were heard in Albany. the next night in Chicago, in less than a week in San Francisco, and two weeks later people in London were listening to the music of the sweet-toned bells.

The man with the strong lungs was Mr. Edward Clarance. There is no man living whose voice is heard so often in so many parts of the world at the same time. For the last three years he has talked and sung into phonographs. Day after day and week after week he stands in the middle of a room at 257 Fifth avenue and talks and sings. As fast as he fills the wax cylinders that record his sounds they are shipped away, and in a few weeks Mr. Clarance's voice is aired in the saloons of California and the drug stores of Maine, and in hundreds of parlors and public places. Many other people talk, sing, and play musical instruments in the same room, but he always makes the announcements in the dropa-nickel-in-the-slot phonographs, and the man who is heard saving. "Mr. So and So will now sing this or that," is Mr. Clarance. He is always looking for ideas, for something new and original, and so he determined to take the music of the chimes of Grace Church. He took four phonographs to the belfry and

horns being pointed upward that they might catch the sound. When the phonographs were In their proper position a messenger informed Miss Thomas, who was scated at the keyboard below. The bells are rung by ejectricity, and when she received word that he was ready, she touched a key which rang the cue bell and was an announcement that she was about to play. When Mr. Clarance heard the cue bell he pressed a button and an electric current was carried from a number of batteries to the phonographs. After Miss Thomas rang the cue bell she counted very slowly to five. While she was ecounting. Mr. Clarance shouted the announcement of what was to follow. The wind was strong and a man speaking in the ordinary conversational tone could not be heard more than three feet away, but Mr. Clarance and his voice were equal to the occasion. He did not seem to exert himself, but had he made as much noise on the street he would have been heard several blocks away. When Miss Thomas had finished counting. Mr. Clarance had finished the melody with the single bell and then played the second verse of the selection with the alts. When she finished she waited exactly two minutes, during which time Mr. Clarance blaced new cylinders in the phonographs. When the hand of Mr. Clarance blaced new cylinders in the phonographs. When the band of Mr. Clarance swatch showed that the two minutes had passed, he made and sometimes break dometimes break about the persons the time prease of the grand with the minutes filled withwater. Undersward hear for themselves the inserticus and defects. desept Mazziotta who plays on tumbles silled withwater. Was playing for me one day. The tumblers was alonging for me one day. The tumblers was playing for me one day. The tumblers was closifically and playing for me one day. The tumblers was playing for me one day. The tumblers was closifically and playing for me one day. The tumblers was closifically and playing for me one day. The tumblers was closifically and playing for me one day. The tumblers was a vicin is tumblers and them playing for me one day. The tumblers were not the minor man them.

When I the prease of the minor man them the prease of the playing for me one day. The tu board below. The bells are rung by electricity. when she sinesed and watered exactly too minutes, during which time Mr. Clarance placed new cylinders in the phonographs. When the time had expired, she counted to five again, when the hand of Mr. Clarance's watch showed that the two minutes had passed, he made an other announcement, and another selection was played. By this arrangement there was no delay between the announcement and the playing. Miss Thomas played an hour overy day for a week, and at the end of that time Mr. Clarance had over 200 "records," as he calls the crimdors which have received an impression of sound. Miss to frame spinged to the larger cities in the various States, some were sent to Europe, and some were kept in the city for concert and exhibition purposes. The results were more favorable than had been expected. The sound of the belia was reproduced, unaccompanied by any jarring, and the vibrations were recorded perfectly. One cilinder was sent to Mr. Ell-son, who was not only pleused but surprised at the perfect success of the attempts.

The headland of the cape products it from the sweep of the search play and some was explander, and as fast as new song that is sure to become popular he makes the singer leaves if one was validate, and as fast as new song that is sure to become popular he makes the singer leaves if one was validate, and as fast as new song that is sure to become popular he makes the singer leaves if one was validate, and as fast as new song that is sure to become popular he makes the singer leaves if one was validate, and as fast as new song that is sure to become popular he makes the singer leaves if one was validate, and as fast as new song that is sure to become popular he makes the singer leaves if one was validate, and as fast as new song and many dollars in the surprise of the owner of the sease of the cape of the sease of the sease of the cape of the sease of the sease of the cape of the sease of the sease of the cape of the sease of the

when he walks on the Rialto he does not go far before he is cornered by a professional, for those whose work is acceptable are well paid, and some of the members of the profession thus pick up a good many dollars in the summer when they otherwise are idle.

There's a new song, 'says the professional.' It's never been heard in public yet, but it'll be a winner, sure.' He hums it, and if it is catchy or for other reasons likely to be a success. Mr. Clarance will be sure to make an engagement with the singer and give him a trial. If the trial is satisfactory the artist is engaged, and receives a liberal compensation. The amount the singer receives does not depend altogether on his or her reputation, but upon ability to sing so that the phonograph will successfully emit the sounds. Some singers whose voices sound well in halls have not been able to produce as good results as others whose are inferior to them as singers. Some voices can be heard more distinctly than others through the telephone, and the same is true of the phonograph.

One young lady, an actress, who wanted a trial forgot to bring with her the music of the song she was to sing.

"That doesn't matter," said Mr. Frank Banta, who always plays the piano accompaniments, "just hum it over once and I'll eatch it."

'Oh, no," said the young lady, "I always play my own geompaniments. I guess I can got along without the music."

The young lady had a good voice, and Mr. Clarance, desiring to humor her alltite, winked to Mr. Banta, who left the piano, and she took his place and sang to her own instrumentel accompaniment. Any audience would have encored her, for the notes rolled out as fast as they do from a drum. When she finished Mr. Clarance started the phonograph for her benefit and let her hear her playing. There was a runicing and a jarring accompanied by some will stricks, and she conlessed that she was a failure.

"Tothaps you will now be willing to receive instructions," said Mr. Clarance. "It took Mr.

as those in the smaller ones listened to it in wonder and astonishment. The listener heard the music of a band, which was interrupted by loud cries of "Fre!" Fre!" There were loud shouts, a rush of people, and a bazz of voices. Then the fire belie rang and a hoze roel came dashing down the street, the gong ringing, the fron-shod hoofselattering, and the heavy wheels rattling over the stones. The sumds were faint at first, but grew louder and louder as the machine approached, and when it arrived the driver yelled to his horses and they stonged. A fireman was heard giving commands, and when he yelled. "Unwind that hove!" the horses again started down the street, the hose was unwound, and there were more shouts and commands. Then a man said. (Come on; it's all out." Another asked. "Where was it?" The repir was. "I don't know; but it didn't amount to anything." and the piece came to an. ad. The thing was so clever that people imagined they heard more than ther did, and many persons insisted that they heard the noise of the water as it went through the nozice of the hose.

Mr. Hoiding's method of producing the night alarm was simple. While his band was playing four or five men cried "Firs!" These has a south the room, when was the rush of the people. All of them inliked, making the buzz of the voices heard in the phonograph. A small bell served as the fire bell. The sound of the horses hoofs was made by a man who struck a stone with two mallers, the sound being faint at first but louner as the horses were supposed to be approaching the scene. While this man was striking the stone another was striking a policeman's rattle, which made the as those in the smaller ones listened to it in

were supposed to be approaching the scene. While this man was striking the stone another was striking a gong. A thich man was whiring a policeman's rattle, which mucle the rumbiling of the wheels of the machine. At first he stone ten or twelve feet from the phenograph, but he approached it as the man with the mallets struck harder. These three men worked together, the noise growing louder in uniformity, and they ceased when the noise was loudest, as it was then supposed that the machine had arrived at the fire. One of the men assumed the part of the freman, who gave commands, and others took the part of the spectators, who said that It was all out and ddin't amount to anything. Of course, everything was done in regular order, and the apparent confusion was systematic. A person standing in the room would have linagined that he was in the midst of a crowd of lunatics. The effect was much the same as that observed behind the scenes of a stage.

"I don't know why it is, but half of the professionals who sing for me have genuine attacks of stage (right, "said M.; tharance." It's strange that a man or woman who can face a crowd of a couple of thousand or more and never feel nervous should tremtle like a leaf and sometimes break dowf when singing in this room in the presence of only two or three people. Perhans it is because they will afterward hear for themselves the imporfections and defects, Joseph Mazziotta, who plays on tumble stilled with water. placed them under the bells, the big brass

berths of the Kuiro Siro, or Japan wave, which tempers the whole northwest coast. Its warmth is often left like a rush of air from an oven. In the cold season its influence is the most noticeatile. Like the other tribes of water Indians they are at home on the main and in the forest, each contributing its resources to their prowess. Civilization has not yeterept sufficiently close to their ailected domain to interfore much with their primitive existence. As a consequence they exist in comparative referement, and follow their rather paceful instincts, but do not hesitate to trade with the settlements on the south shore of the straits. Their yearly eatless of soals and fish yield the fribe many thousands a year. Their yearly eatless of soals and fish yield the fribe many thousands a year. Settle docks. Capt. Schuyler Collax, who commands the vessel, is one of the high types crew is made up of a dozen of his braves, each an able searman. She sailed in with all the sangirold of an Inglish bark out from Liverguite a curtosity to all who vist the wing front. Her mission up the sound is to dispose of the commodity as 522 per skin. The modus viscual has been problemed to dispose of the commodity as 522 per skin. The modus viscual has been problemed to dispose of the commodity as 522 per skin. The modus viscual has been problemed to the surface of the commodity as 522 per skin. The modus viscual has problemed to the surface of the commodity as 522 per skin. The modus viscual has been problemed to the commodity as 522 per skin. The modus viscual has been problemed to the surface of the commodity as 522 per skin. The modus viscual has been problemed to the surface of the surface of the surface of the surface of the commodity as 522 per skin. The modus viscual has been problemed to the surface of the s

amount the singer received does not do not alterative with or or required to the same and alterative with a presentation to the product of th

WOMAN'S MEDICAL COLLEGE.

EFOURED FROM THE NEW YORK IN-FIRMARY FOR WOMEN AND CHILDREN. Hospital Features of the Large Finely

Equipped Structure Give Pienty of Prac-tice to Its Pair Students-Comfort in its Wards for Patients, Rich or Poor,

The New York Infirmary for women and children was incorporated in 1854, at 321 East Fifteenth street, and three years later it added oftself the hospital. For eleven years after the infirmacy began its work, in 1854, there was no hospital or dispensary open to women students in this country, though two medical colleges, one in Boston and the other in Philadelphia, admitted them. Many students were, from time to time, admitted to the infirmary for private instruction, and as their number increased it was considered expedient to establish a woman's medical college in connec-tion with the infirmacy. Through the determined efforts of Drs. Elizabeth and Emily Blackwell, assisted by the trustees of the infirmary, a charter was granted in 1845 by the State Legislature for the college, which has steadily grown and developed for more than a

quarter of a century.

Meantime other women's colleges have sprung up, but most of them with so lows standard of instruction that their degrees are considered worthless by the profession. The curriculum of the Woman's Medical College and standard of excellence required for graduation equals that of the best medical schools for men in this country, and it has the distinc-tion of having established the first chair of hygiene in America. It was also among the first two or three medical schools of the country to exact entrance examinations, which it did ten years before such examinations were required by State law.

When the college was established in 1865 the infirmary was moved to its present building 5 Livingston place, and the old infirmary was refitted for the college, but was soon outgrown. In 1880 a lot was purchased for a new college building on the corner of Livingston place and East Fifteenth street, facing Stuyvesant square, and the following summer a building was erected at a cost of \$57,000. The front of No. 3 Livingston place accommodates the house staff, whose rooms in the infirmary as well as the former operating room. have been altered into wards, this arrangement greatly increasing the accommodations for patients, and forming one of the most important portions of the future permanent hospital.

The new children's ward at the left of the front door is an airy, cheerful room, containing twelve white iron cribs. There is an aquarium of goldfish for the weary childish eyes to feast upon, and pictures of the Madonna and the Child whose tenderness for the "little ones" never failed. Little chairs and tables are ready for the use of little convalescents and dainty white screens, covered with wild roses are at hand to shut away a crib whose occupant is too ill to enjoy companionship. Four beds in this ward are partly endowed. one by the Sunbeam Circle for the use of the Society for the Prevention of Cruelty to Children, one by the Mission Aid Society of St. George's Church, one by Mr. and Mrs. Octavus Libby, in memory of their son, Arthur Man-

THEY KILLED A GRIZZLY.

Brain Was Lassord and Tied to a Tree Be-

TACOMA, Wash., June 13.—One of the largest grizzly bears ever killed in this State was lassoed and afterward shot near Asotin, in the Palouse country, on the other side of the Cascade Mountains, a few days ago, by Henry and Frank Hanson. The two men were riding along the river hills looking for stock when they came unexpectedly upon the big grizzly. who was moving slowly along in the road. Bruin heard the tramp of the horses and stopped long enough to turn his head in the direction of the approaching team and utter a

direction of the approaching team and utter a long growl. Then he went swangering along at a little faster page than he had been going. The two brothers examined their rifles carefully and put spurs to their horses. When they got within a few yards of the bear he rose upon his haunches and displayed his teeth significantly. While he was doing this teeth significantly. While he was doing this the men got their rawhide lariats, and in an instant Henry Hanson had his lariat around bruin's neck. His brother quickly located the noose of his lariat in the same place. The grizzly made one pass with his paw and broke one of the lariats as if it had been a common piece of twine. He tried hard to reach the other lariat with his paws, but he couldn't, and in a few moments he was fighting madle bit and clawed around, but he could not get away. The lariat had been wound around a tree, and Henry Hanson took a position where he could get good aim and shot the struggling animal. It took five shots te kill him.

The same of the sa